



SEQUENCE LISTING

<110> Brunkow, Mary E.
 Jeffery, Eric W.
 Hjerrild, Kathryn A.
 Ramsdell, Fred

<120> IDENTIFICATION OF THE GENE CAUSING THE
 MOUSE SCURFY PHENOTYPE AND ITS HUMAN ORTHOLOG

<130> 240083.501D4

<140> US 09/697,340

<141> 2000-10-24

<160> 14

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 2160

<212> DNA

<213> Mus musculus

<400> 1

gctgatcccc	ctctagcagt	ccacttcacc	aagggtgagcg	agtgtccctg	ctctccccc	60
ccagacacag	ctctgctggc	gaaagtggca	gagaggtatt	gaggggtggg	gtcaggagcc	120
caccagtaca	gctggaaaaca	cccagccact	ccagctcccg	gcaacttctc	ctgactctgc	180
cttcagacga	gacttggaag	acagtcacat	ctcagcagct	cctctgccgt	tatccagcct	240
gcctctgaca	agaacccaat	gccaaccct	aggccagcca	agcctatggc	tccttccttg	300
gcccttggcc	catcccagg	agtcttgcca	agctggaaga	ctgcacccaa	gggctcagaa	360
cttctagggg	ccaggggctc	tgggggaccc	ttccaaggct	gggacctgcg	aagtggggcc	420
cacacctctt	cttccttgaa	ccccctgcca	ccatcccagc	tgcagctgcc	tacagtgcgc	480
ctagtcatgg	tggcaccgtc	tggggcccga	ctaggtccct	caccccacct	acaggccctt	540
ctccaggaca	gaccacactt	catgcatcag	ctctccactg	tggatgccca	tgcccagacc	600
cctgtgctcc	aagtgcgtcc	actggacaac	ccagccatga	tcagcctccc	accaccttct	660
gctgccactg	gggtcttctc	cctcaaggcc	cggcctggcc	tgccacctgg	gatcaatgtg	720
gccagtctgg	aatgggtgtc	cagggagcca	gctctactct	gcaccttccc	acgctcgggt	780
acaccagga	aagacagcaa	ccttttggct	gcaccccaag	gacctaacc	actgctggca	840
aatggagtct	gcaagtggcc	tggttgtgag	aaggctcttcg	aggagccaga	agagtttctc	900
aagcactgcc	aagcagatca	tctcctggat	gagaaaggca	aggcccagtg	cctcctccag	960
agagaagtgg	tgcagtctct	ggagcagcag	ctggagctgg	aaaaggagaa	gctgggagct	1020
atgcaggccc	acctggctgg	gaagatggcg	ctggccaagg	ctccatctgt	ggcctcaatg	1080
gacaagagct	cttgctgcat	cgtagccacc	agtactcagg	gcagtgtgct	ccgggcctgg	1140
tctgctcctc	gggaggctcc	agacggcgcc	ctgtttgcag	tgcggaggca	cctctgggga	1200
agccatggca	atagtccctt	cccagagttc	ttccacaaca	tggactactt	caagtaccac	1260
aatatgcgac	cccctttcac	ctatgccacc	cttatccgat	gggccatcct	ggaagccccg	1320
gagaggcaga	ggacactcaa	tgaatctac	cattgggtta	ctcgcatgtt	cgcctacttc	1380
agaaaccacc	ccgccacctg	gaagaatgcc	atccgccaca	acctgagcct	gcacaagtgc	1440
tttgtgcgag	tggagagcga	gaagggagca	gtgtggaccg	tagatgaatt	tgagtttcgc	1500
aagaagagga	gccaacgccc	caacaagtgc	tccaatccct	gcccttgacc	tcaaaaccaa	1560
gaaaagggtg	cggggggagg	gggccaacaa	catgagactg	aggctgtggg	ggcaaggagg	1620
caagtcctac	gtgtacctat	ggaaaccggg	cgatgatgtg	cctgctatca	gggcctctgc	1680

```

tccctatcta gctgccctcc tagatcatat catctgcctt acagctgaga ggggtgccaa 1740
tcccagccta gcccctagtt ccaacctagc cccaagatga actttccagt caaagagccc 1800
tcacaaccag ctatacatat ctgccttggc cactgccaag cagaaagatg acagaçacca 1860
tcctaataatt tactcaacccc aaaccctaaa acatgaagag cctgccttgg tacattcgtg 1920
aactttcaaaa gttagtcatg cagtcacaca tgactgcagt cctactgact cacaccccaa 1980
agcactcacc cacaacatct ggaaccacgg gcactatcac acataggtgt atatacagac 2040
ccttacacag caacagcact ggaaccttca caattacatc ccccccacc acacaggcat 2100
aactgatcat acgcagcctc aagcaatgcc caaaatacaa gtcagacaca gcttgtcaga 2160

```

```

<210> 2
<211> 429
<212> PRT
<213> Mus musculus

```

```

<400> 2
Met Pro Asn Pro Arg Pro Ala Lys Pro Met Ala Pro Ser Leu Ala Leu
1      5      10      15
Gly Pro Ser Pro Gly Val Leu Pro Ser Trp Lys Thr Ala Pro Lys Gly
20      25      30
Ser Glu Leu Leu Gly Thr Arg Gly Ser Gly Gly Pro Phe Gln Gly Arg
35      40      45
Asp Leu Arg Ser Gly Ala His Thr Ser Ser Ser Leu Asn Pro Leu Pro
50      55      60
Pro Ser Gln Leu Gln Leu Pro Thr Val Pro Leu Val Met Val Ala Pro
65      70      75      80
Ser Gly Ala Arg Leu Gly Pro Ser Pro His Leu Gln Ala Leu Leu Gln
85      90      95
Asp Arg Pro His Phe Met His Gln Leu Ser Thr Val Asp Ala His Ala
100     105     110
Gln Thr Pro Val Leu Gln Val Arg Pro Leu Asp Asn Pro Ala Met Ile
115     120     125
Ser Leu Pro Pro Pro Ser Ala Ala Thr Gly Val Phe Ser Leu Lys Ala
130     135     140
Arg Pro Gly Leu Pro Pro Gly Ile Asn Val Ala Ser Leu Glu Trp Val
145     150     155     160
Ser Arg Glu Pro Ala Leu Leu Cys Thr Phe Pro Arg Ser Gly Thr Pro
165     170     175
Arg Lys Asp Ser Asn Leu Leu Ala Ala Pro Gln Gly Ser Tyr Pro Leu
180     185     190
Leu Ala Asn Gly Val Cys Lys Trp Pro Gly Cys Glu Lys Val Phe Glu
195     200     205
Glu Pro Glu Glu Phe Leu Lys His Cys Gln Ala Asp His Leu Leu Asp
210     215     220
Glu Lys Gly Lys Ala Gln Cys Leu Leu Gln Arg Glu Val Val Gln Ser
225     230     235     240
Leu Glu Gln Gln Leu Glu Leu Glu Lys Glu Lys Leu Gly Ala Met Gln
245     250     255
Ala His Leu Ala Gly Lys Met Ala Leu Ala Lys Ala Pro Ser Val Ala
260     265     270
Ser Met Asp Lys Ser Ser Cys Cys Ile Val Ala Thr Ser Thr Gln Gly
275     280     285
Ser Val Leu Pro Ala Trp Ser Ala Pro Arg Glu Ala Pro Asp Gly Gly
290     295     300
Leu Phe Ala Val Arg Arg His Leu Trp Gly Ser His Gly Asn Ser Ser
305     310     315     320
Phe Pro Glu Phe Phe His Asn Met Asp Tyr Phe Lys Tyr His Asn Met
325     330     335

```

Arg Pro Pro Phe Thr Tyr Ala Thr Leu Ile Arg Trp Ala Ile Leu Glu
 340 345 350
 Ala Pro Glu Arg Gln Arg Thr Leu Asn Glu Ile Tyr His Trp Phe Thr
 355 360 365
 Arg Met Phe Ala Tyr Phe Arg Asn His Pro Ala Thr Trp Lys Asn Ala
 370 375 380
 Ile Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Ser
 385 390 395 400
 Glu Lys Gly Ala Val Trp Thr Val Asp Glu Phe Glu Phe Arg Lys Lys
 405 410 415
 Arg Ser Gln Arg Pro Asn Lys Cys Ser Asn Pro Cys Pro
 420 425

<210> 3
 <211> 1869
 <212> DNA
 <213> Homo sapien

<400> 3
 gcacacactc atcgaaaaaa atttggatta ttagaagaga gaggtctgcg gcttccacac 60
 cgtacagcgt ggtttttctt ctcggtataa aagcaaagtt gtttttgata cgtgacagtt 120
 tcccacaagc caggctgata cttttctgtc agtccacttc accaagcctg cccttggaca 180
 aggaccgat gcccaacccc aggcctggca agccctcggc cccttcettg gcccttggcc 240
 catccccagg agcctcgccc agctggaggg ctgcacccaa agcctcagac ctgctggggg 300
 cccggggccc agggggaacc ttccaggggc gagatcttcg aggcggggcc catgcctcct 360
 cttcttcctt gaaccccatg ccaccatcgc agctgcagct gccacactg cccctagtea 420
 tgggtggcacc ctccggggca cggctggggc ccttgcccca cttacaggca ctccctccagg 480
 acaggccaca ttcatgcac cagctctcaa cgggtggatgc ccacgcccgg acccctgtgc 540
 tgcaggtgca cccctggag agccagcca tgatcagcct cacaccaccc accaccgcca 600
 ctgggggtctt ctccctcaag gcccggcctg gcctcccacc tgggatcaac gtggccagcc 660
 tggaatgggt gtccagggag ccggcactgc tctgcacctt cccaaatccc agtgcaacca 720
 ggaaggacag caccctttcg gctgtgcccc agagctccta cccactgctg gcaaattggtg 780
 tctgcaagtg gcccggatgt gagaaggtct tcgaagagcc agaggacttc ctcaagcact 840
 gccaggcgga ccatcttctg gatgagaagg gcagggcaca atgtctcttc cagagagaga 900
 tggtagagtc tctggagcag cagctggtgc tggagaagga gaagctgagt gccatgcagg 960
 cccacctggc tgggaaaatg gcactgacca aggccttcac tgtggcatca tccgacaagg 1020
 gctcctgctg catcgtagct gctggcagcc aaggccctgt cgtcccagcc tgggtctggcc 1080
 cccgggaggc ccctgacagc ctgtttgctg tccggaggca cctgtggggg agccatggaa 1140
 acagcacatt cccagagttc ctccacaaca tggactactt caagtccac aacatgcgac 1200
 cccctttcac ctacgccacg ctcatccgct gggccatcct ggaggctcca gagaagcagc 1260
 ggacactcaa tgagatctac cactggttca caccgatgtt tgctttcttc agaaaccatc 1320
 ctgccacctg gaagaacgcc atccgccaca acctgagttc gcacaagtgc tttgtgcggg 1380
 tggagagcga gaagggggct gtgtggaccg tggatgagct ggagttccgc aagaaacgga 1440
 gccagaggcc cagcaggtgt tccaacccta cacctggccc ctgacctcaa gatcaaggaa 1500
 aggaggatgg acgaacaggg gccaaactgg tgggaggcag aggtggtggg ggcagggatg 1560
 ataggccctg gatgtgccc cagggaccaaa gaagtgaggt ttccactgtc ttgacctgcca 1620
 gggccctgt tccccgctg gcagccacc cctccccat catatcctt gccccaaggc 1680
 tgctcagagg ggccccggtc ctggccccag cceccacctc cgcccagac acacccccca 1740
 gtcgagccct gcagccaaac agagccttca caaccagcca cacagagcct gcctcagctg 1800
 ctgcacaga ttacttcagg gctggaaaag tcacacagac acacaaaatg tcacaatcct 1860
 gtccctcac 1869

<210> 4
 <211> 431
 <212> PRT
 <213> Homo sapien

<400> 4

Met	Pro	Asn	Pro	Arg	Pro	Gly	Lys	Pro	Ser	Ala	Pro	Ser	Leu	Ala	Leu	1	5	10	15
Gly	Pro	Ser	Pro	Gly	Ala	Ser	Pro	Ser	Trp	Arg	Ala	Ala	Pro	Lys	Ala	20	25	30	
Ser	Asp	Leu	Leu	Gly	Ala	Arg	Gly	Pro	Gly	Gly	Thr	Phe	Gln	Gly	Arg	35	40	45	
Asp	Leu	Arg	Gly	Gly	Ala	His	Ala	Ser	Ser	Ser	Ser	Leu	Asn	Pro	Met	50	55	60	
Pro	Pro	Ser	Gln	Leu	Gln	Leu	Pro	Thr	Leu	Pro	Leu	Val	Met	Val	Ala	65	70	75	80
Pro	Ser	Gly	Ala	Arg	Leu	Gly	Pro	Leu	Pro	His	Leu	Gln	Ala	Leu	Leu	85	90	95	
Gln	Asp	Arg	Pro	His	Phe	Met	His	Gln	Leu	Ser	Thr	Val	Asp	Ala	His	100	105	110	
Ala	Arg	Thr	Pro	Val	Leu	Gln	Val	His	Pro	Leu	Glu	Ser	Pro	Ala	Met	115	120	125	
Ile	Ser	Leu	Thr	Pro	Pro	Thr	Thr	Ala	Thr	Gly	Val	Phe	Ser	Leu	Lys	130	135	140	
Ala	Arg	Pro	Gly	Leu	Pro	Pro	Gly	Ile	Asn	Val	Ala	Ser	Leu	Glu	Trp	145	150	155	160
Val	Ser	Arg	Glu	Pro	Ala	Leu	Leu	Cys	Thr	Phe	Pro	Asn	Pro	Ser	Ala	165	170	175	
Pro	Arg	Lys	Asp	Ser	Thr	Leu	Ser	Ala	Val	Pro	Gln	Ser	Ser	Tyr	Pro	180	185	190	
Leu	Leu	Ala	Asn	Gly	Val	Cys	Lys	Trp	Pro	Gly	Cys	Glu	Lys	Val	Phe	195	200	205	
Glu	Glu	Pro	Glu	Asp	Phe	Leu	Lys	His	Cys	Gln	Ala	Asp	His	Leu	Leu	210	215	220	
Asp	Glu	Lys	Gly	Arg	Ala	Gln	Cys	Leu	Leu	Gln	Arg	Glu	Met	Val	Gln	225	230	235	240
Ser	Leu	Glu	Gln	Gln	Leu	Val	Leu	Glu	Lys	Glu	Lys	Leu	Ser	Ala	Met	245	250	255	
Gln	Ala	His	Leu	Ala	Gly	Lys	Met	Ala	Leu	Thr	Lys	Ala	Ser	Ser	Val	260	265	270	
Ala	Ser	Ser	Asp	Lys	Gly	Ser	Cys	Cys	Ile	Val	Ala	Ala	Gly	Ser	Gln	275	280	285	
Gly	Pro	Val	Val	Pro	Ala	Trp	Ser	Gly	Pro	Arg	Glu	Ala	Pro	Asp	Ser	290	295	300	
Leu	Phe	Ala	Val	Arg	Arg	His	Leu	Trp	Gly	Ser	His	Gly	Asn	Ser	Thr	305	310	315	320
Phe	Pro	Glu	Phe	Leu	His	Asn	Met	Asp	Tyr	Phe	Lys	Phe	His	Asn	Met	325	330	335	
Arg	Pro	Pro	Phe	Thr	Tyr	Ala	Thr	Leu	Ile	Arg	Trp	Ala	Ile	Leu	Glu	340	345	350	
Ala	Pro	Glu	Lys	Gln	Arg	Thr	Leu	Asn	Glu	Ile	Tyr	His	Trp	Phe	Thr	355	360	365	
Arg	Met	Phe	Ala	Phe	Phe	Arg	Asn	His	Pro	Ala	Thr	Trp	Lys	Asn	Ala	370	375	380	
Ile	Arg	His	Asn	Leu	Ser	Leu	His	Lys	Cys	Phe	Val	Arg	Val	Glu	Ser	385	390	395	400
Glu	Lys	Gly	Ala	Val	Trp	Thr	Val	Asp	Glu	Leu	Glu	Phe	Arg	Lys	Lys	405	410	415	
Arg	Ser	Gln	Arg	Pro	Ser	Arg	Cys	Ser	Asn	Pro	Thr	Pro	Gly	Pro		420	425	430	

<210> 5

<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for generation of mouse Fkh cDNA

<400> 5
gcagatctcc tgactctgcc ttc 23

<210> 6
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for generation of mouse Fkh cDNA

<400> 6
gcagatctga caagctgtgt ctg 23

<210> 7
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for generation of human Fkh cDNA

<400> 7
agcctgccct tggacaagga c 21

<210> 8
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for generation of human Fkh cDNA

<400> 8
gcaagacagt ggaaacctca c 21

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for PCR amplification of mouse Fkh cDNA

<400> 9
ctaccactg ctggcaaagtg 20

<210> 10
<211> 23
<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR amplification of mouse Fkh cDNA

<400> 10

gaaggaacta ttgcatggc ttc

23

<210> 11

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for hybridization reaction

<400> 11

atgcagcaag agctcttgtc cattgagg

28

<210> 12

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for hybridization reaction

<400> 12

gcagcaagag ctcttttgtc cattgagg

28

<210> 13

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for amplification of Fkh cDNA

<220>

<221> misc_feature

<222> 3

<223> n = T or C

<220>

<221> modified_base

<222> 6

<223> n = inosine

<220>

<221> misc_feature

<222> 9

<223> n = G or A

<220>

<221> misc_feature

<222> 12

<223> n = C or T

<220>
 <221> misc_feature
 <222> 15
 <223> n = G or A

 <400> 13
 cangngant gnaantgg

18

<210> 14
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer for amplification of Fkh cDNA

<220>
 <221> misc_feature
 <222> 1
 <223> n = G or A

<220>
 <221> misc_feature
 <222> 7
 <223> n = G or A

<220>
 <221> misc_feature
 <222> 10
 <223> n = A or G

<220>
 <221> misc_feature
 <222> 13
 <223> n = A, G or T

<220>
 <221> misc_feature
 <222> 16
 <223> n = C or T

<220>
 <221> misc_feature
 <222> 19
 <223> n = G or A

<400> 14
 naaccanttn tanatntcnt t

21